



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,835	10/20/2003	Stefan Thiesen	32140-191339	9919
26694	7590	03/09/2006	EXAMINER	
VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20045-9998			NGUYEN, TRINH T	
			ART UNIT	PAPER NUMBER
			3644	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/687,835	Applicant(s) THIESEN ET AL.	
	Examiner Trinh T. Nguyen	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE dated 1/31/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,22,23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 7, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerber et al. (US 6129024) in view of Altenau et al. (US 6041713).

For claim 1, Gerber et al. disclose a fragment projectile comprising: a projectile casing (20) having a hollow interior space; heavy metal fragments (22) filling the hollow interior space; an ejector charge (28) disposed in the rear of the hollow interior space, wherein the heavy metal fragments fill more of the hollow interior space than the ejector charge and any explosive charge, and the ejector charge when activated during the flight of the projectile, forces the heavy metal fragments out of the hollow interior space through a projectile tip at a front of the projectile casing; and means (8,9,10,11) for activating the ejector charge at a desired time during the flight of the projectile.

Gerber et al. lack the teaching that the ejector charge is a pyrotechnical ejector charge.

Altenau et al. teach a similar a projectile as that of Gerber et al. wherein Altenau et al.'s projectile having a pyrotechnical ejector charge (15) therein. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the projectile of Gerber et al. so as to include the use of a pyrotechnical

Art Unit: 3644

ejector charge, in a similar manner as taught in Altenau et al., in order to improve the smoke and/or flash effect of the overall projectile and also it is well known in the art to use pyrotechnical charge as a source of charge to cause explosion in projectile.

For claim 2, Gerber et al. as modified by Altenau et al. (emphasis on Gerber et al.) further discloses the means for activating is adapted to activate the pyrotechnical ejector charge at a predetermined time during the flight of the projectile.

For claim 3, Gerber et al. as modified by Altenau et al. (emphasis on Gerber et al.) further discloses the means for activating is a programmable timer fuse.

For claim 4, Gerber et al. as modified by Altenau et al. (emphasis on Gerber et al.) further discloses a subcaliber projectile provided with a propelling cage sabot (1).

For claim 7, Gerber et al. as modified by Altenau et al. (emphasis on Gerber et al.) further discloses the means for activating includes a programmable timer fuse or proximity fuse to ignite the pyrotechnical ejector charge.

For claim 22, Gerber et al. as modified by Altenau et al. (emphasis on Gerber et al.) further discloses a predetermined fracture points in a region of the projectile tip.

For claim 23, Gerber et al. as modified by Altenau et al. (emphasis on Gerber et al.) further discloses the heavy metal fragments fill at least half of the hollow interior space.

3. Claims 5, 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerber et al. (US 6129024) in view of Altenau et al. (US 6041713) and further in view of Bocker et al. (US 6536351).

Gerber et al. as modified by Altenau et al., as described above, discloses most of the claimed invention except for indicating the heavy metal fragments are spherical and the heavy metal fragments comprise tungsten.

Bocker et al. teach a similar projectile as that of Gerber et al. as modified by Altenau et al. in which Bocker et al.'s projectile includes the use of tungsten fragments and that the fragments are spherical fragments (see lines 5-10 of col. 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the projectile of Gerber et al. as modified by Altenau et al. so as to include the use of spherical tungsten fragments, in a similar manner as taught in Bocker et al., in order to improve the spreading and/or acceleration factor of fragments due to the shape and/or the material.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gerber et al. (US 6129024) in view of Altenau et al. (US 6041713) and further in view of DE 15 78 135 (DE'135).

Gerber et al. as modified by Altenau et al., as described above, discloses most of the claimed invention except for indicating fins that stabilize the projectile during flight.

DE'135 teaches a similar projectile as that of Gerber et al. as modified by Altenau et al. in which DE'135's projectile includes fins (13) so as to provide stability to the overall projectile during flight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the projectile of Gerber et al. as modified by Altenau et al. so as to include the use of fins, in a similar manner as taught in DE'135, in order to provide stability to the overall projectile during flight.

Response to Arguments

5. Applicant's arguments with respect to claims 1-10, 22, and 23 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

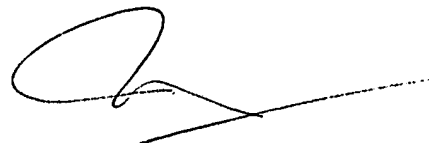
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh T. Nguyen whose telephone number is (571) 272-6906. The examiner can normally be reached on M-F (9:30 A.M to 6:00 P.M).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on (571) 272-7045. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Trinh T Nguyen
Primary Examiner
Art Unit 3644

3/3/06

1/1



Drawing is
approved.

TTN
3/3/06

